

-continued

Ser	Leu	Leu	Ser	Val	Leu	Leu	Met	Gly	Cys	Val	Ala	Glu	Thr	Gly
	20						25						30	

What is claimed is:

1. A method of expanding cytotoxic lymphocytes ex vivo, comprising culturing a population of lymphocytes in the presence of a chimeric peptide, wherein the chimeric peptide comprises a NKG2D receptor binding partner linked to an interleukin-2 (IL-2) mutant peptide, wherein the population of lymphocytes comprises cytotoxic lymphocytes.

2. The method of claim 1, wherein the IL-2 mutant peptide comprises the amino acid sequence of SEQ ID NO: 5 comprising at least one mutation, wherein said at least one mutation is R38A, F42K, and/or C125S relative to SEQ ID NO: 5

3. The method of claim 1, wherein the NKG2D receptor binding partner is an orthopoxvirus major histocompatibility complex class 1-like protein (OMCP) peptide.

4. The method of claim 3, wherein the OMCP peptide comprises the amino acid sequence of SEQ ID NO: 7.

5. The method of claim 3, wherein the OMCP peptide comprises at least 80% identity to the amino acid sequence of SEQ ID NO: 7.

6. The method of claim 3, wherein the OMCP peptide comprises the amino acid sequence of SEQ ID NO: 13.

7. The method of claim 3, wherein the OMCP peptide comprises at least 80% identity to the amino acid sequence of SEQ ID NO: 13.

8. The method of claim 3, wherein the OMCP peptide comprises the amino acid sequence of SEQ ID NO: 14.

9. The method of claim 3, wherein the OMCP peptide comprises at least 80% identity to the amino acid sequence of SEQ ID NO: 14.

10. The method of claim 1, wherein the cytotoxic lymphocytes comprise CD8⁺ T cells and/or NK cells.

11. A composition comprising the cytotoxic lymphocytes produced by the method of claim 1.

12. A method of treating a disease or disorder in a subject in need thereof comprising administering to the subject an effective amount of the composition of claim 11.

13. The method of claim 12, wherein the disease or disorder is cancer.

14. The method of claim 12, wherein the disease or disorder is a viral infection.

* * * * *